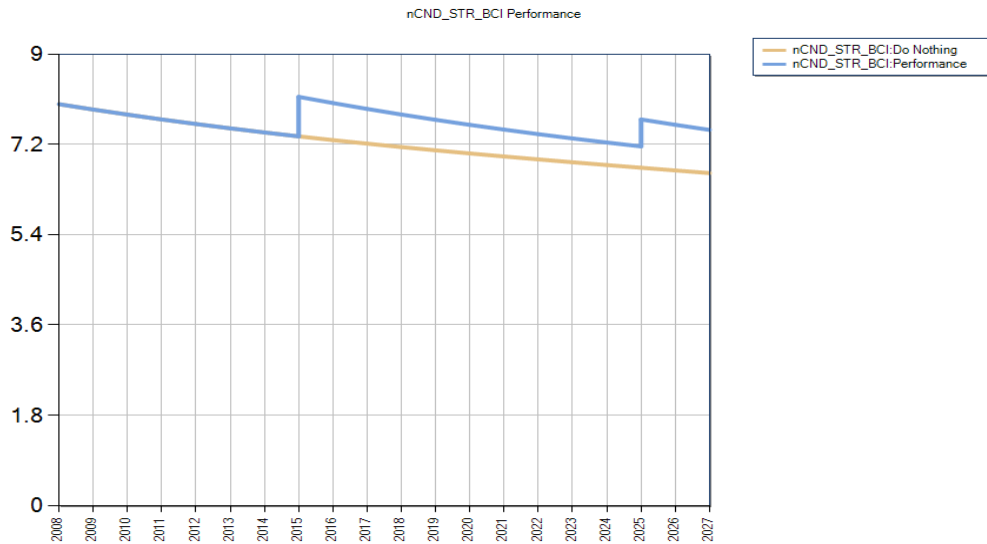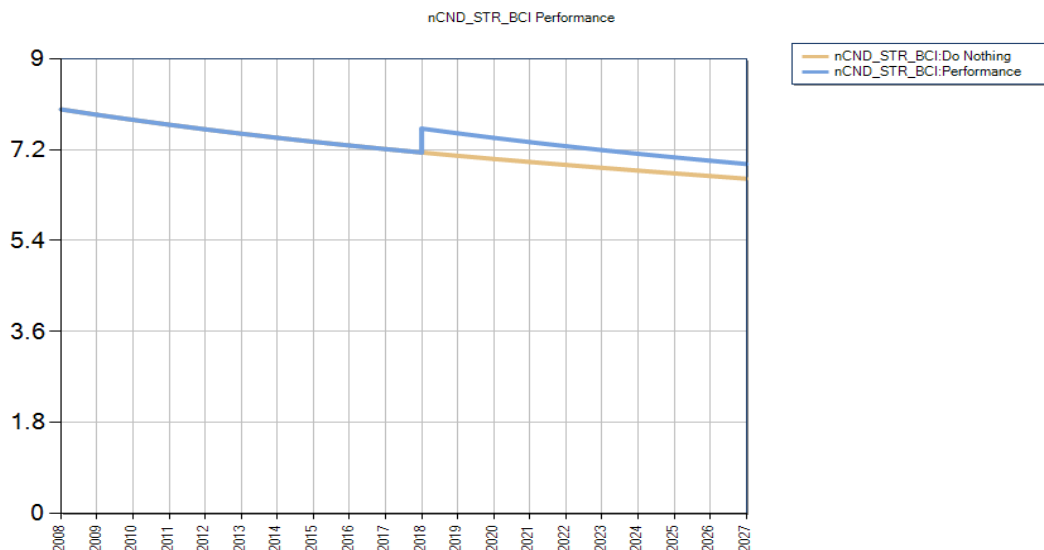## dTIMS CT Strategies

During the LCCA Analysis, dTIMS CT generates several maintenance and rehabilitation strategies for each structure included within the analysis. A typical strategy consists of one or more treatments being carried out on the structure over the analysis period:

Figure 3: Typical Strategy Performance

Figure 3 outlines a typical strategy generated for a structure in the dTIMS CT LCCA. The strategy includes an initial treatment (in this case preventive maintenance in 2017) and a subsequent treatment later on in the analysis (in this case a repair in 2025).
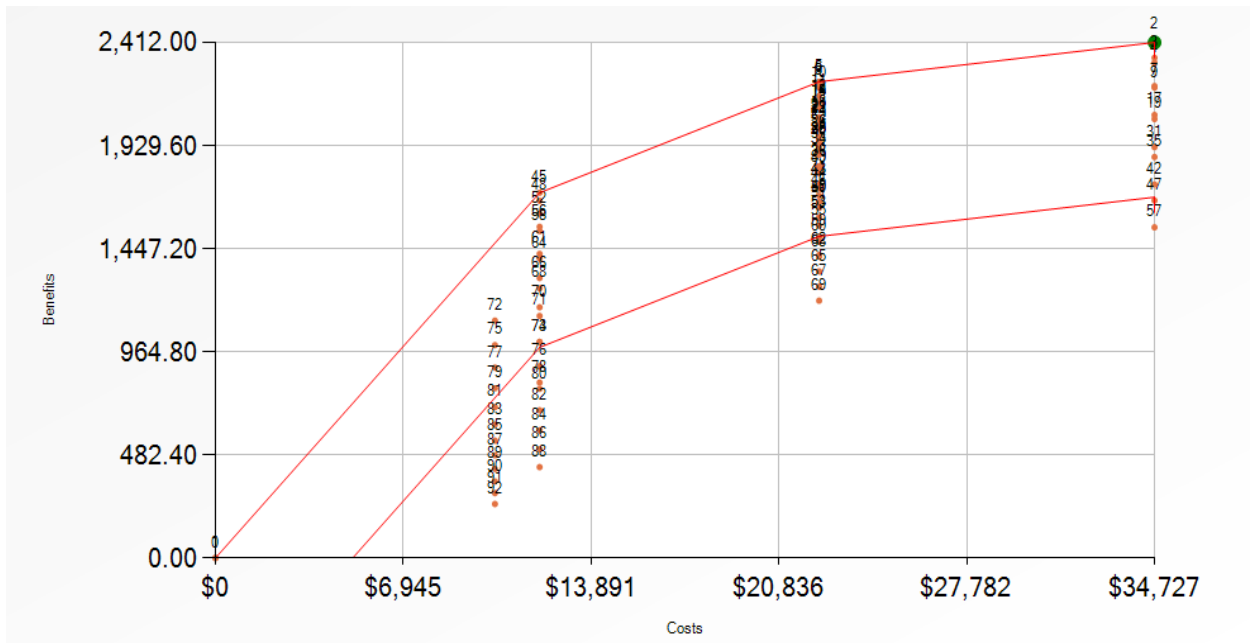
Another example of a typical strategy is shown in Figure 4:

Figure 4: Typical Strategy Performance

Figure 4 shows another typical strategy for the same structure as used in Figure 3, except this strategy only has 1 treatment generated, which is a repair to the deck only in 2018.

During the analysis, dTIMS CT generated 92 different alternative strategies for the structure shown in Figure 3 and Figure 4 which, when plotted in terms of the strategies benefits and costs, look as follows (Figure 5):

Figure 5: Efficiency Frontier

During optimization, dTIMS CT evaluates the benefits and costs of the alternative strategies generated for each structure included in the network and attempts to maximize the benefit for the available budget. Higher budget dollars may enable dTIMS to recommend multiple treatments in multiple years (Figure 3) while optimizing smaller budget amounts may result in dTIMS CT recommending only 1 treatment on a structure (Figure 4).